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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/617,448

07/11/2003

Haim Feldman

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02/01/2005

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EXAMINER

MONBLEAU, DAVIENNE N

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 02/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

**Office Action Summary**

Application No.

10/617,448

Applicant(s)

FELDMAN ET AL.

Examiner

Davienne Monbleau

Art Unit

2878

**Period for Reply** - The MAILING DATE of this communication appears on the cover sheet with the correspondence address -

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 11-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

The amendment filed on 12/29/04 has been entered. Claims 11 and 13 have been amended. Claims 11-17 are pending.

### ***Claim Objections***

Regarding Claim 15, using first, second, and third pluralities is misleading because there is only one plurality for type of element: i.e. there is only one plurality of pixels and only one plurality of concurrently scanning beams.

Regarding Claim 15 line 1, the phrase "detecting a plurality of pixels stored" is incorrect. Pixels are not detected; pixels detect incident light and store a signal that represents the value of said light. That signal is read out of said pixels.

Regarding Claim 15 line 5, -- scanning -- should be inserted before "beams" to keep the claim language clear and consistent.

Regarding Claim 15 line 7, the phrase "concurrently serially" is contradicting itself. Signals cannot be read out concurrently while at the same time be read out serially.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

Art Unit: 2878

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

*Claims 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kusunose (U.S. 6,043,932) in view of Kiik et al. (EP 0 866 502 A2).*

Regarding Claim 11, *Kusunose* teaches in Figure 1 a linear light detector apparatus for detecting a plurality of concurrently scanning spot beams comprising a plurality of adjacent light detector sections (11a – 11c) disposed linearly along a common axis, each detector section positioned to detect light concurrently with other detector sections from a respective scanning beam (lines 20-31). *Kusunose* further teaches in column 9 lines 7-10 a CCD driver (43) to read out electric charges stored in respective light receiving elements line by line, which says that each detector section (11a – 11c) has a plurality of detector elements (i.e. pixels). *Kusunose* does not teach a multi-stage storage device. *Kiik* teaches in Figure 1 at least one multistage storage device (110) operative to receive in parallel an input from a plurality of light detectors and to serially readout (112) information stored in said multiple stages. Since each register (110) comprises a plurality of vertical register elements (see Figure 3) and each vertical register elements receives a pixel signal, each detector section comprises a plurality of light detectors. It would have been obvious to one of ordinary skill in the art to use a multi-stage storage device in *Kusunose*, as taught by *Kiik*, to eliminate first pixel droop in CCD sensors while maintaining uniform pixel pitch.

Art Unit: 2878

Regarding Claim 12, *Kiik* teaches in Figure 2 that each light detector section comprises an input (132) for section transfer signals and an output (134) for serial readout of said section.

Regarding Claim 13, *Kiik* teaches in Figures 1 and 3 that each said light detector section comprises a temporary shift register having plural stages (see Figure 3), said shift register being operative to receive in each stage in parallel the content of a corresponding detector and to be read out serially (112). (Each stage, AA-DA, acts as a temporary shift register).

Regarding Claim 14, *Kiik* teaches in Figure 2 a source of section transfer signals (132) to provide section transfer signals to read out a plurality of said stages in series, and a data out line including a buffer (108) to carry said serial read out signals.

Regarding Claim 15, the method of the device is not germane to the issue of patentability of the device itself, since the device itself obviously uses the method. Therefore the rejection used on the device applies also to the method of the device. See discussion on Claim 11 above.

Regarding Claim 16, *Kusunose* teaches in Figure 3 in column 9 lines 1-15 synchronizing the timing of the scanning of said beams and said readout of said stored signals.

Regarding Claim 17, *Kusunose* does not teach that said capturing and storing step is conducted concurrently in only a portion of said first plurality of sections. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to use concurrent capturing and storing only in a portion of the first plurality of sections in order to inspect a particular portion of the scanned object independently. Additionally, when scanning a small object, it may only be necessary to use a portion of a section to inspect said object.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

*Kvamme et al. (U.S. 6,636,301)* teaches an optical inspection system comprising focusing a plurality of light beams to a plurality of scanning spots on the surface of a substrate and a linear detector arrangement.

*Vaez-Iravani (U.S. 6,578,961)* teaches a parallel inspection and imaging system comprising multiple focused beams to illuminate a specimen and a linear detector array.

*Almogly (U.S. 6,236,454)* teaches an inspection system comprising multiple beams which illuminate multiple spots on surface to be scanned and a plurality of detector units to image a particular beam.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davienne Monbleau whose telephone number is 571-272-1945. The examiner can normally be reached on Mon-Fri 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Application/Control Number: 10/617,448


Page 6

Art Unit: 2878

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Danielle McNamee*

DNM

  
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